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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/015,128

12/11/2001

Gang Qi

SP01-317

1966

22928

7590

02/13/2003

CORNING INCORPORATED

SP-TI-3-1

CORNING, NY 14831

EXAMINER

SONG, SARAH U

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/015,128

Applicant(s)

QI ET AL.

Examiner

Sarah Song

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-41 is/are allowed.
- 6) ☒ Claim(s) 1,2,5-12,20-23 and 25 is/are rejected.
- 7) ☒ Claim(s) 3,4,13-19 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☒ Interview Summary (PTO-413) Paper No(s) 61.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Information Disclosure Statement*

1. The prior art documents submitted by the applicant in the Information Disclosure Statement filed on December 11, 2001 have all been considered and made of record (note the attached copy of form PTO-1449).

### *Drawings*

2. This application has been filed with five (5) sheets of drawings, which have been approved by the Examiner.

### *Claim Objections*

3. Claims 1, 19 and 25 are objected to because of the following informalities: Regarding claim 1, in line 3, examiner suggests insertion of ~~that~~ after "profile". Regarding claim 19, the claim reads, "wherein the segmented core comprises...an outer clad..." Since the art clearly distinguishes between cores and claddings, the claim is objected to for indicating that the segmented core comprises an outer clad. Regarding claim 25, the gutter segment is claimed twice, and having contradictory relative refractive indices.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 20-22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one

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skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The disclosure lacks a written description supporting the claimed ranges for the relative refractive index of the outer clad. The specification only discloses a single clad layer (in contrast to an inner clad and an outer clad) and does not disclose or suggest any relative refractive index values for the clad layer other than zero, since the relative refractive index is taken with respect to the refractive index value of the cladding layer.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 20-22 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 20-22 and 25 claim a positive relative refractive index percent for the gutter segment. However, the specification discloses negative relative refractive index percents for the gutter segments. For purposes of examination, the negative relative refractive index percents as disclosed in paragraph [0049] of the specification will be used.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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9. Claims 1, 2, 5-11 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Li et al. (US 2002/0154877).

The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Li et al. disclose a dispersion and dispersion slope compensating optical fiber 24 comprising a segmented core and a cladding layer (see abstract). The fiber exhibits a refractive index profile that is selected to provide a dispersion having a maximum deviation of less than about 5 ps/nm-km within the wavelength band of from about 1550 nm to about 1610 nm (see Figure 9, and [0159]).

Regarding claim 5, the cut-off wavelength is disclosed as less than or equal to about 2200 nm (see [0049]).

Regarding claims 6 and 7, the projected zero dispersion is located at about 1500 nm (see Figure 9).

Regarding claims 8-10, the dispersion slope is less than about -120 ps/nm-km at 1580 nm (see Figure 9).

Regarding claim 11, the dispersion slope is less than about -2 ps/nm<sup>2</sup>-km at 1580 nm (see [0045]).

Regarding claim 23, Li et al. disclose a system comprising a transmitter 26, a transmission fiber 22, a dispersion compensating fiber 24 as indicated above, and a receiver 28.

9. Claims 1, 2, 12 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Bickham et al. (US 2002/0028051).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Bickham et al. disclose a dispersion and dispersion slope compensating optical fiber 24 comprising a segmented core and a cladding layer (see abstract). The fiber exhibits a refractive index profile that is selected to provide a dispersion having a maximum deviation of less than about 5 ps/nm-km within the wavelength band of from about 1550 nm to about 1610 nm (see Figure 10, and [0032] through [0036]). The core comprises a central core segment, a depressed moat segment, an intermediate segment and an annular ring segment as claimed (Figures 1-7, 9, 12-14 and 16). Additionally, Bickham et al. disclose the compensating fiber in combination with a transmission fiber, a transmitter and a receiver ([0066] and [0091]).

***Allowable Subject Matter***

9. Claims 3, 4, 13-19 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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10. Claim 25 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

11. Claims 26-41 are allowed.

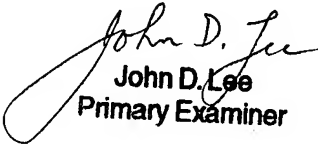
12. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not disclose a dispersion and dispersion slope compensating fiber having the mode bend loss of claim 3, the segmented core regions of claim 19, or the claimed refractive index profile of claims 13-18, 24 and 25. The prior art of record also does not disclose a dispersion compensating fiber having a central core, a depressed moat having a relative refractive index more negative than  $-1.2\%$  and an annular ring segment outward from the moat segment and having a relative refractive index that is greater than  $1.2\%$  as recited in claim 26.

***Conclusion***

13. Any inquiry concerning the merits of this communication should be directed to Examiner Sarah Song at telephone number 703-306-5799. Any inquiry of a general or clerical nature, or relating to the status of this application or proceeding should be directed to the receptionist at telephone number 703-308-0956 or to the technical support staff supervisor at telephone number 703-308-3072.

  
sus

February 4, 2003

  
John D. Lee  
Primary Examiner